



TITLE:

Acute Aortic Occlusion

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症 例

Acute Aortic Occlusion

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Abstract

Acute occlusion of the infrarenal abdominal aorta is a vascular catastrophe, and the prognosis remains poor. This report describes a 52-year-old man with acute occlusion of the abdominal aorta following acute myocardial infarction. He was successfully treated with a transfemoral embolectomy with the use of a Fogarty catheter. The postoperative course was uneventful.

Introduction

Arterial embolism is a relatively common clinical problem. Aortic saddle embolus is the most common cause of acute aortic occlusion that is a catastrophe which usually occurs in patients with heart disease. We report a case of acute aortic occlusion following acute myocardial infarction successfully treated by embolectomy.

Case report

On June 8, 1988, a 52-year-old man was hospitalized due to chest oppressive sensation of 24 hours' duration. Physical examination revealed a blood pressure of 136/80 mm Hg and a regular pulse of 120 per minute. The chest roentgenogram showed pulmonary congestion and moderate cardiomegaly with a cardiothoracic ratio of 0.61. The electrocardiogram showed a normal sinus rhythm with an extensive acute anterior wall myocardial infarction. Coronary angiography showed complete occlusion of the proximal left anterior descending coronary artery. The left circumflex and right coronary arteries appeared normal. Left ventricular angiography was not performed. A percutaneous intra-aortic balloon pump catheter was inserted via the right femoral artery for circulatory assistance and removed percutaneously on June 13. Counterpulsation was continued for five days. Four hours after removal of the balloon, the patient experienced

Key words: Aortic occlusion, Saddle embolism. Myocardial infarction, Embolectomy.

索引用語: 大動脈閉塞, 騎乗塞栓, 心筋梗塞, 血栓除去.

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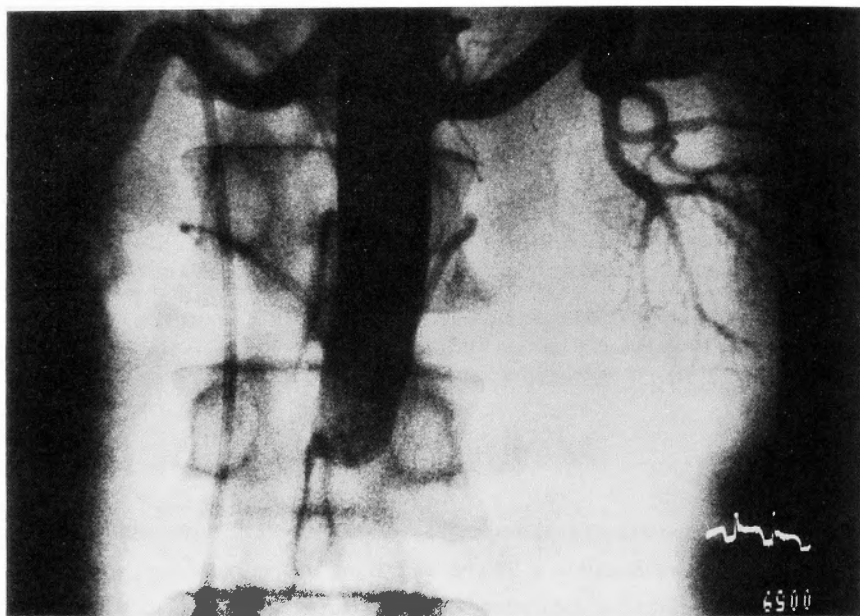


Fig. 1. The aortogram shows complete occlusion of the infrarenal abdominal aorta with poor collateral vessels to the lower extremities.

sudden severe pain in both lower extremities which were cold and pulseless. Bilateral iliac artery occlusion was suspected. An intravenous bolus of 7000 U of heparin was given. An emergency abdominal aortogram demonstrated complete occlusion of the abdominal aorta at the level of the aortic bifurcation with poor collateral vessels to the lower extremities (Fig. 1).

On June 13, 1988, three hours after the onset of symptoms bilateral groin incisions were made. The common, superficial and deep femoral arteries were isolated. An arteriotomy was performed on both common femoral arteries which were occluded with fresh thrombus, and a transfemoral thrombectomy of the abdominal aorta, iliac, and femoral arteries with the use of a Fogarty balloon catheter. After removal of the thrombus, the arteriotomies were closed.

Good femoral and popliteal pulses were restored, and the postoperative course was uneventful. Cardiac catheterization and angiography were performed on the 32nd postoperative day. Coronary angiography showed complete occlusion of the proximal left anterior descending coronary artery. Left ventricular angiography showed a large aneurysm of the left ventricle. Abdominal aortography revealed excellent contrast filling and flow in the abdominal aorta and iliac arteries (Fig. 2). The patient was discharged asymptomatic on the 45th day.

On November 1, 1988, an elective operation was performed for the left ventricular aneurysm. Mural thrombi were noted in the left ventricle (Fig. 3). The postoperative course was uneventful.

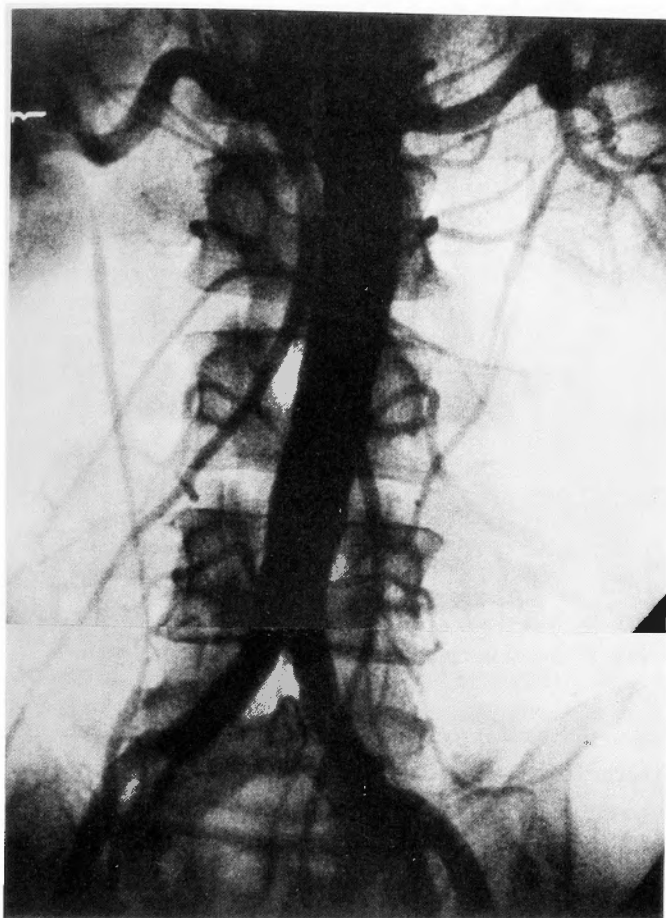


Fig. 2. The postoperative aortogram shows excellent contrast filling and flow in the abdominal aorta and iliac arteries.

Discussion

The most common cause of acute occlusion of the infrarenal abdominal aorta is an aortic saddle embolus. Such emboli represent approximately 10% of all peripheral emboli^{1,3,5}. Although the heart is the most common source of the embolus, arteriosclerotic heart disease with either atrial fibrillation or recent myocardial infarction has replaced rheumatic heart disease as the most common cause of embolism. Embolism is most likely in the first three weeks after myocardial infarction^{2,7,8}. In our case embolism occurred six days after an extensive anterior myocardial infarction. At the time of operation for post-infarction aneurysm of the left ventricle, five months after the embolectomy, mural thrombi were found in the left ventricle, and the origin of the embolus was ascertained (Fig. 3).

Patients with arterial emboli are prepared for surgery as rapidly as possible. Bilateral transfemoral catheter embolectomy under local anesthesia is the usual choice for acute aortic

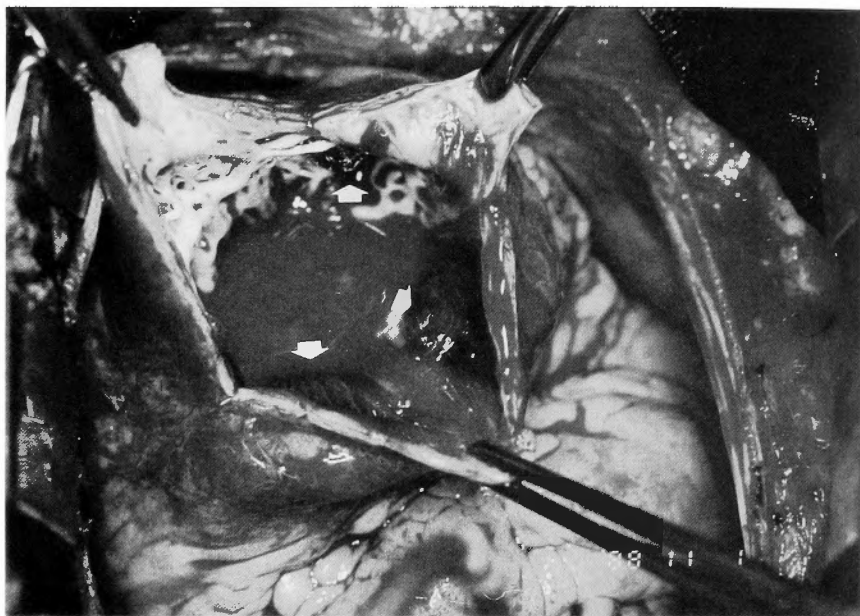


Fig. 3. Mural thrombi (arrows) are seen in the left ventricle.

occlusion^{4, 6)}. Because our patient was already in the hospital for acute myocardial infarction when embolization occurred, he was promptly operated on three hours after the onset of symptoms and survived with good function of the extremities. However, perioperative mortality and the need for amputation remain high, especially in patients with acute aortic occlusion.

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和文抄録

急性大動脈閉塞症の1治験例

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症例は52歳, 男性. 1988年6月7日, 胸部圧迫感を来し近医に搬送され, 翌日当院を受診した. 冠動脈造影等の精査を行い左冠動脈前下行枝の完全閉塞による急性心筋梗塞(広範囲前壁梗塞)の診断を得, 右大腿動脈から大動脈バルーンカテーテルを挿入し心補助を行った. 循環動態が安定したため6月13日12時に同カテーテルを抜去した. 同日16時, 突然両下肢の冷感, 疼痛, チアノーゼが出現し, 両側大腿動脈の拍動を触れなくなった. 直ちに腹部大動脈造影を行ったところ, 腎動脈下腹部大動脈の完全閉塞を認めた. 同日19時, 局麻下に両側大腿動脈を露出, Fogarty カテーテルを

逆行性に腹部大動脈まで挿入し血栓を摘除した. 両下肢動脈の拍動は良好となり, 下肢虚血症状は消失した. 術後大動脈造影で腹部大動脈, 腸骨動脈以下の造影は良好であった. なお左室造影で巨大な左室瘤を認めたため後日左室瘤切除術を予定し術後45日退院した.

1988年11月左室瘤切除術を施行した際, 左室内に多量の壁血栓を認めた. 術後経過は良好で, 下肢虚血症状は消失している. 予後不良とされている急性大動脈閉塞症の1例を経験し, 発症3時間後に血栓除去術を行い救命治療し得たので報告した.